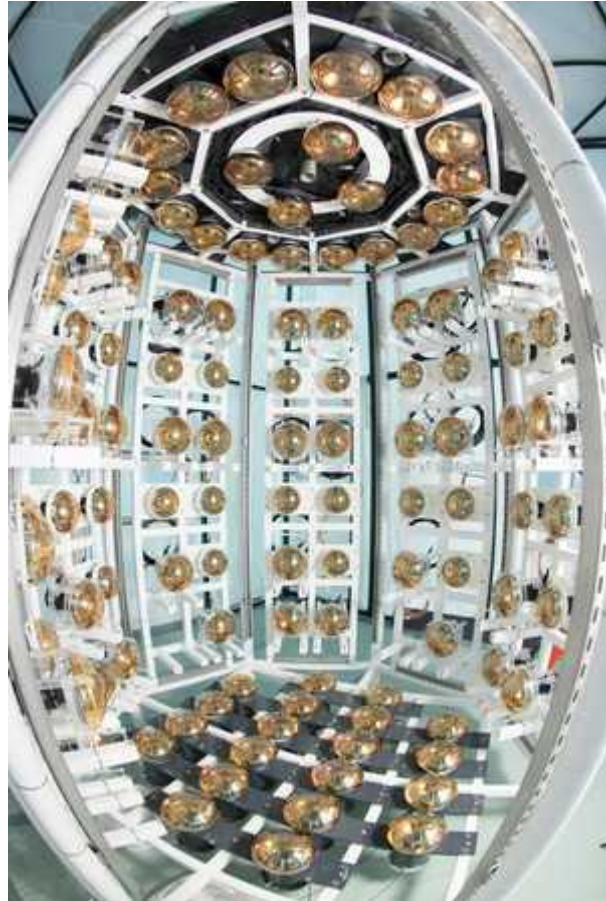




# **ANNIE: Accelerator Neutrino Neutron Interaction Experiment**

**Vincent Fischer**  
on behalf of the ANNIE collaboration



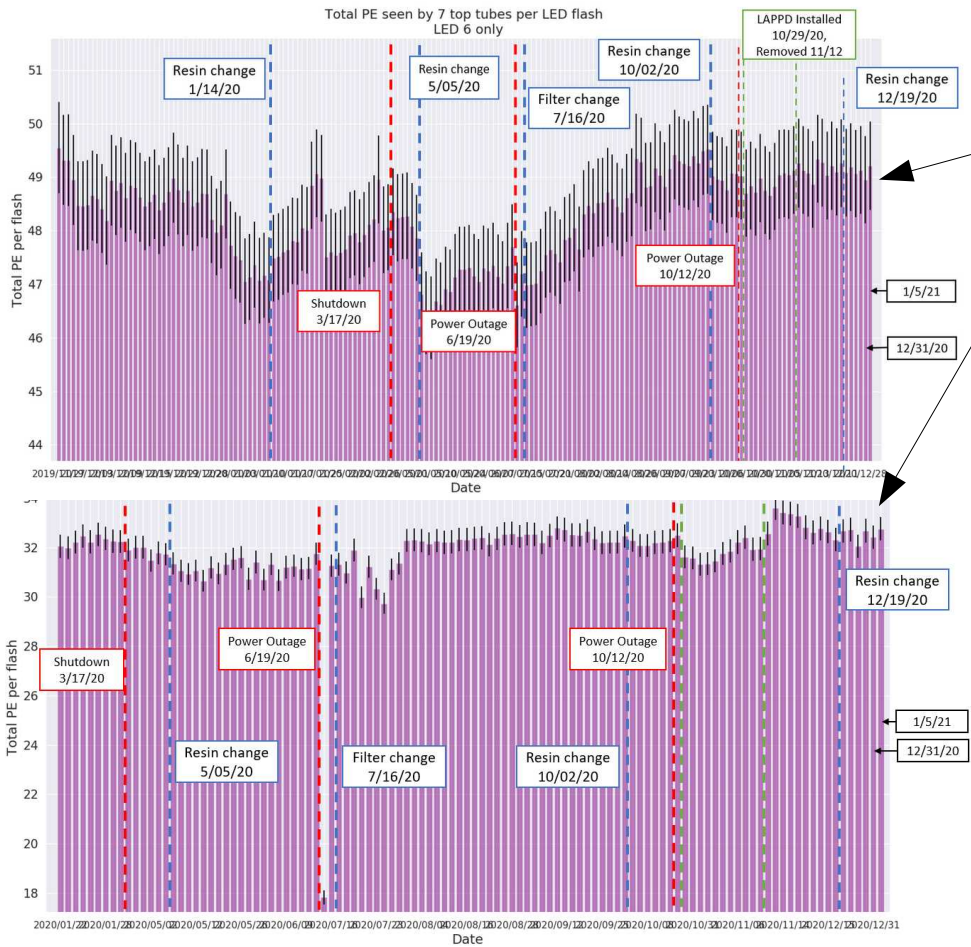
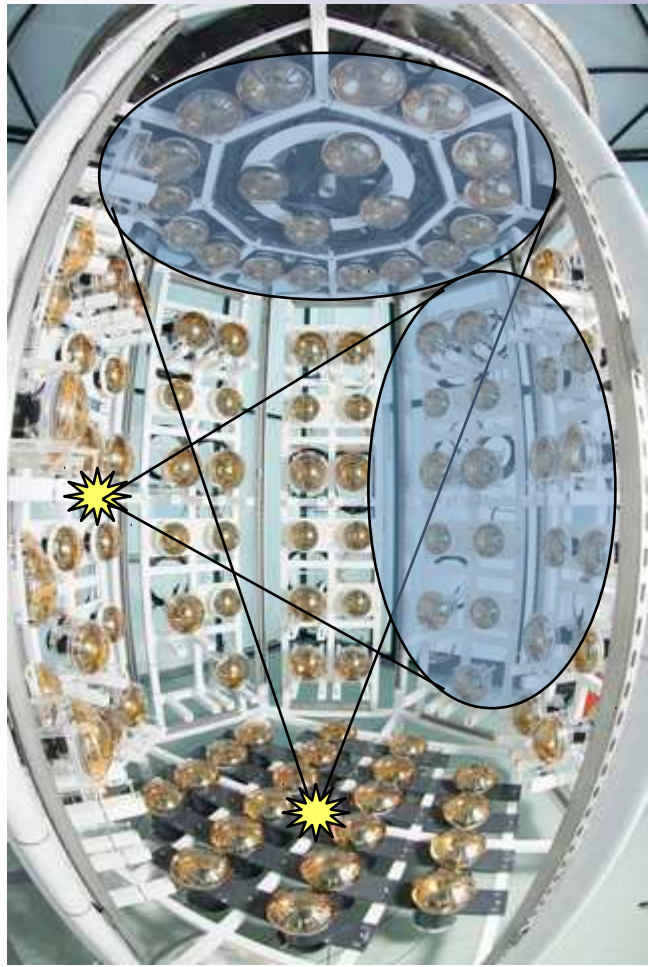
## Since the last PMG meeting:

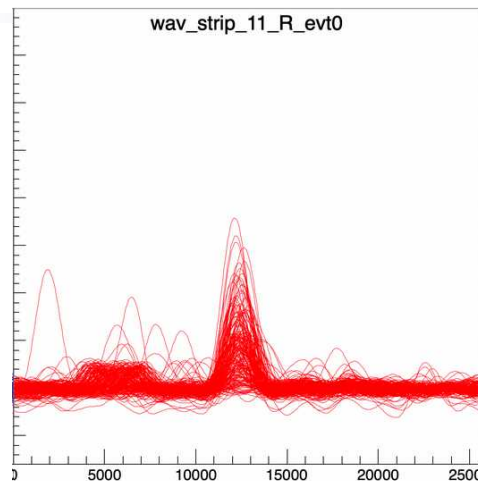
- Maintenance operation on the water system
- LAPPD characterization ongoing at Lab 6
- Data taking with tank PMTs only throughout the break
- Continuous 24/7 shifts throughout the break

- Right before the break, data from the MRD was not accessible when taking beam runs
- Issue seems to be coming from the communication with the CAMAC crates handling the MRD and front veto data
- Crates are connected to the DAQ computer via USB and can be seen but can't be communicated with
- Possible issue: USB driver problem
- Ongoing investigation to fix the issue
- Data being taken is still quality data for commissioning as it allows us to find beam using PMT data and to check for discrepancies with the data taken last year

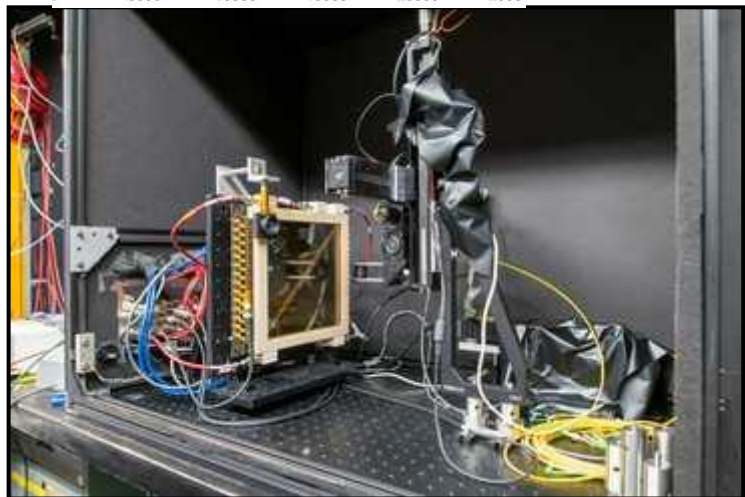


# Water quality is stable





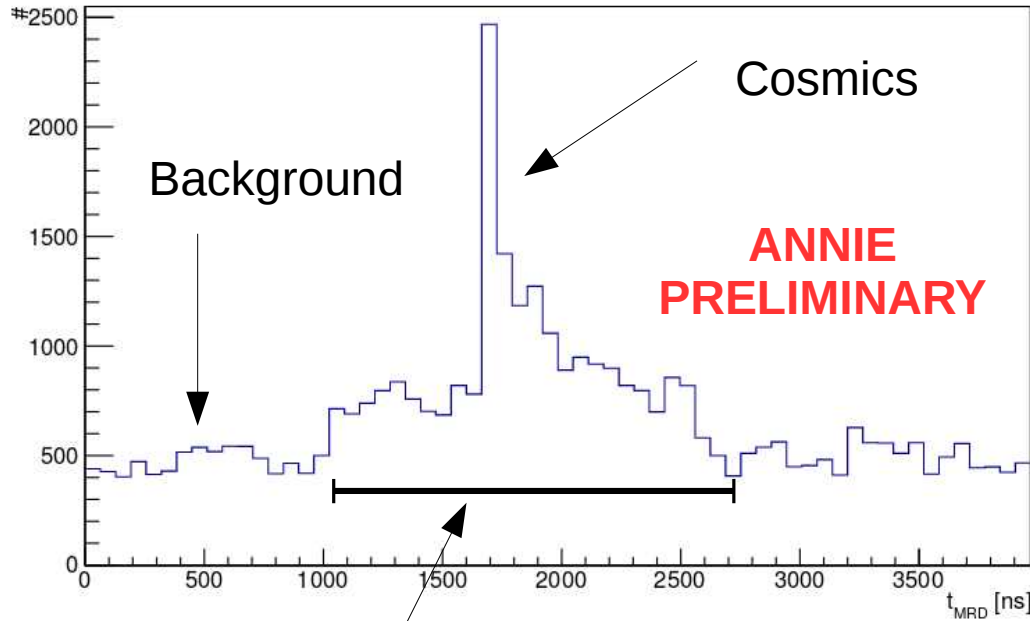
- Several 2D scans performed at different LAPPD voltages and with different laser intensities:
- Timing on both sides of a single strip
- Strip-by-strip timing
- Preliminary gain VS voltage
- Change in firmware and software to increase the data taking rate → Factor ~5 increase with 2 boards acquiring data simultaneously
- Powering the data acquisition boards using a separate LVHV board instead of a standalone power supply



- ANNIE is in the beam commissioning phase. Work on MRD issues is progressing.
  - Readiness to take physics data will be communicated with BNB so the beam rate/intensity could be increased
  - We have transitioned to 24/7 regular detector monitoring shifts. Significant fraction of the collaboration has gone through shift training and shadowing
- Data being taken allows us to commission the beam trigger using PMT data and do data comparisons with data taken before shutdown.

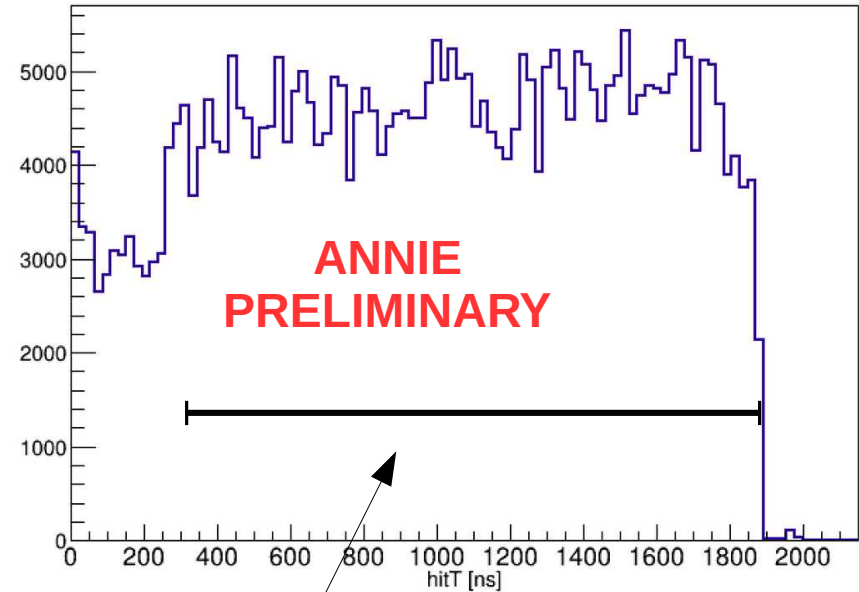
Goal: Find the beam peak (muons and neutrinos) in the data

MRD Clustered Beam Times - R2280



Beam

PMT Data



Beam